

Chapter Five

Additional Applications of Supplemental Instruction

Use of Supplemental Instruction at an Urban High School

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While various strategies for learning support have been employed and found useful at the college and university level (Noel, Levitz, & Saluri, 1985), it has been difficult to transport these strategies to the public secondary schools. Particularly troublesome has been the effective development of programs addressing the needs of inner city, ethnically diverse secondary schools (Blanc, 1981; Presseisen, 1985). Through collaboration between educators at the University of Missouri-Kansas City and the local public schools, Supplemental Instruction (SI) was selected as the major academic support component for the students at Westport High School, an inner city school in Kansas City.

The Westport High School SI Project

The student population of Westport High School is approximately 60% African-American, 20% Latino, 14% Anglo, and 6% Asian-American. In 1988, when the SI program was introduced to Westport, the total dropout rate at Westport was 30%. Additionally, on any given day, 30% of the students were absent from one or more classes. Nearly 50% of Westport students were two years behind in reading and math, and 25% were one year behind grade level. Nearly 60% of the students were economically disadvantaged as evidenced by their

qualification for the federally funded free lunch program.

The opportunity to work with high school students at Westport occurred as a part of the Schools, Colleges, Universities Project (SCUP), a grant from the U.S. Department of Education. The purpose of SCUP was to encourage students to complete high school and continue with post-secondary education or pursue a vocational career. UMKC provided training and supervision for the SI component of the program. The SCUP grant was supplemented with funds from a private initiative, Project Choice, an educational support program provided by the Ewing Marion Kauffman Foundation.

Common Student Learning Problems

While students may be underprepared for many reasons, one common educational concern about underprepared students is that they typically lack the ability to reason effectively. Research suggests that half of entering college freshmen have not yet attained reasoning skills at the formal (abstract) operational level (Arons & Karplus, 1976) described by Piaget and Inhelder (1958). Students who appear to operate at the concrete (nonabstract) level consistently have difficulty processing unfamiliar information when it is presented through the abstract media of lecture and text.

Student questions about material are often detail-oriented and superficial. Rarely do students ask or answer questions which require inference, synthesis, or application. Students can operate at more advanced levels once they have mastered a concept, but to do so they require regular instruction that either anchors the concept directly in their previous experience or provides a concrete experience with data from which the concept may be inferred. (Atkins & Karplus, 1962; Fuller, 1980; Karplus et al., 1976; Renner et al., 1976). Deficiencies in these fundamental skills underlie most problems with basic academic skills such as reading, language, and mathematics.

Research studies with a wide variety of high school populations indicate that substantial gains in the level of reasoning and questioning skills can be achieved expeditiously through appropriate learning strategies and techniques (Blanc, 1981; Jones, 1985; Presseisen, 1985; Schneider & Renner, 1980). Similar findings have been reported in the college or university setting (Keimig, 1983).

Program Objectives at Westport High School

While the overall desired outcome was to increase appropriate academic behavior and skills among the targeted student population at Westport, the following measurable objectives were established for the targeted ninth and tenth grade populations:

1. To increase the retention rate,
2. To increase the attendance rate,
3. To increase class grades in history and English,
4. To increase scores on standardized tests, and
5. To improve affective domain scores on selected instruments.

History and English classes at Westport were selected for implementation of SI because many students routinely experience academic difficulty in reading and notetaking in the history class and writing in the English class.

Westport Program Design

Individuals selected to lead the SI sessions at Westport were college students who were approved by the high school course instructor and certified as content-competent. Most of these college students were education majors, but some were majors in other disciplines. These SI leaders were recruited from Kansas City area colleges, paid through funds provided by the SCUP grant, and were trained in learning

strategies most appropriate to their content discipline. SI leaders underwent intensive training before they began working with Westport students, and additional training was provided on an ongoing basis through daily staff meetings. The training workshop was similar to training provided for SI leaders who worked at UMKC, but one unique training component dealt with student discipline procedures.

SI leaders attended the targeted history or English class, listened, and took notes. By attending class sessions, SI leaders were better prepared to help students understand the language of the course as they integrated the lectures and readings. Since these SI leaders had direct knowledge of the class material, they were better able to model good student behavior during the SI sessions. High school students also were more responsive to the SI leaders since the leaders attended class along with them. The SI leader and Westport teacher in either the target English or history class met briefly each week to discuss upcoming lesson plans. The teachers often shared handouts, curriculum guides, and other helpful materials that the SI leaders then used to develop SI session plans.

Typically, SI leaders conducted two to three 50-minute SI sessions each week during regular school hours. SI program staff felt that it was critical that the academic intervention be offered during the school day to avoid the familiar problems of transportation, family responsibilities, extracurricular activities, and part-time work hours.

Westport SI leaders were supervised by staff from UMKC. The SI supervisors accompanied SI leaders to class lectures, assisted with planning strategies for SI sessions, and accompanied leaders to their SI sessions. After the SI session, the SI supervisor debriefed the leader and made suggestions for improvement. The time commitment of the SI supervisors varied over the course of the semester. During the first month of the academic term, the SI supervisor accom-

panied the SI leader to all class lectures and SI sessions. After this first intensive period, the supervisor's time commitment diminished.

By targeting high-risk courses rather than high-risk students, the SI program avoided the remedial stigma associated with most academic support programs. Therefore, students at various levels of ability felt comfortable participating freely in the risk-free environment of the SI sessions. From the beginning, the program was proactive, not reactive, in that SI was offered at the start of the semester, allowing students to obtain assistance before they encountered academic difficulty.

Westport SI Evaluation Results

During the same time that the SI program was implemented at Westport, a number of other services were introduced through the SCUP grant and the Kauffman Foundation. Some of these included counseling and career guidance for students. Workshops for parents and closer ties between the family and school were developed. As the high school changed from a neighborhood school to a school designed to be part of a magnet choice program, the student population changed. However, the only new academic enhancement program that worked with all the ninth and tenth grade students was SI. Interpretation of data collected during the three-year pilot program indicated that SI contributed to increased student performance in several areas.

Progress was made in improving the students' final course grades in English and history. The control measures were mean final course grades of ninth and tenth grade Westport students before the SI program was introduced. When comparing SI attendance and improvement in grades from quarter to quarter, there was a significant change in grades when examining the students at the lower end of the grading scale. Within that group, there was significance as great as one-half letter grade improvement in history and three-fourths letter grade improve-

ment in English. SI participating students were also asked to rate the SI program's impact in helping them perform better academically, and the majority of the students reported that the SI program was effective.

Westport teachers generally found the SI sessions to be helpful and cited incidents which convinced them that SI was making a difference. Teachers felt that students participated more in class, and they also believed that better scores on standardized tests were attributable to SI reinforcement.

Summary

In summation, the SI program provided the central academic support focus for ninth and tenth grade students at Westport High School. While not the only relevant factor, the SI program contributed to increased student performance.

After completing a three-year pilot test, the initial program results appear favorable. While there has been some difficulty in implementing this comprehensive learning assistance program during the regular school day, the results in improved academic performance and improved student discipline warrant further program use.

Supplemental Instruction can be implemented in a variety of other ways in other high schools. Upperclass students, adult volunteers, parent volunteers, or other persons could serve as SI leaders and supervisors. With the support and creativity of high school administrators and faculty, many opportunities exist for the effective adoption of Supplemental Instruction at the high school level.